"How I Do It"

Surgeons discuss their unique hernia repair techniques.

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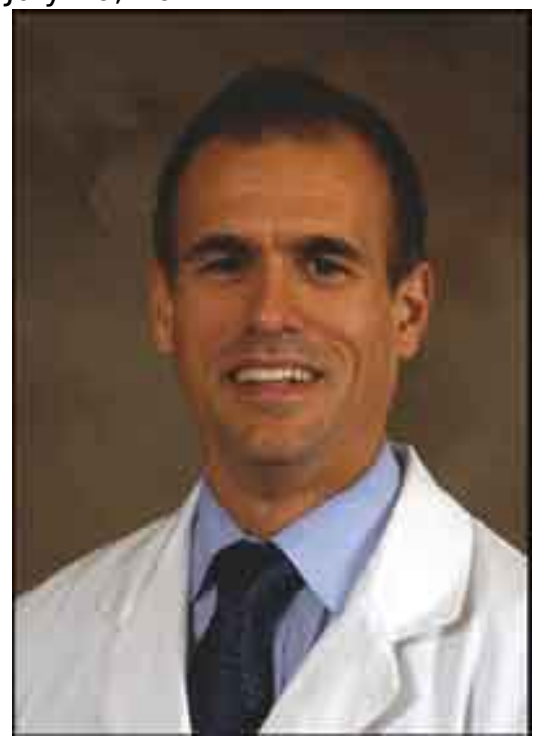

Posterior Components Separation Technique

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The traditionally popularized Ramirez components separation technique (CST) is an excellent operation that has enjoyed renewed interest and popularity with the complex issues of infected and complicated abdominal wall hernia scenarios seen today. The initial CST involves division of the posterior rectus sheath and an incision of the external abdominal oblique aponeurosis in order to pull the rectus muscles medially and achieve closure of the abdomen.

While CST is an effective operation, it has its downsides. First, it requires a large subcutaneous flap to be dissected off the muscle. This creates a risk of wound complications due to cutting the blood supply to the skin in an effort to get out lateral enough to cut the muscle. It also requires working in a very limited space, as

the rectus sheath is only so wide, laterally, limiting how far a surgeon can dissect.

One of the advantages of PCST (top) is it avoids skin and fat dissection.

In my experience performing CST, I discovered an extra space that lies out lateral to the rectus sheath where I was able to access the plane between the transversus abdominis muscle and the internal oblique muscle and create a space to lay a large mesh. From this discovery, my Posterior Components Separation Technique (PCST) was developed. PCST involves a retromuscular dissection to the edge of the rectus sheath. Skin and fat are left intact because the work is done through the midline incision and then behind the rectus muscles. Once the edge of the sheath is reached, I disconnect it and now can access the plane between the internal oblique and the transversus abdominis muscle. I take the disconnected posterior rectus sheath layer and suture it together in the midline. I place the piece of mesh in the retromuscular position to reinforce the closure. I bring the rectus muscles closed in the midline and then close the skin.

Meanwhile, CST (bottom) requires a subcutaneous flap elevation, which increases the risk for wound complications.

In doing this operation that involves dissecting outside of that sheath, I felt I was able to access a plane that gave me more medial movement, and I was able to close just about any defect no matter how wide. By gaining access into this other plane, I was able to move things together much like a sliding door.

Basically, PCST is a variation or modification of CST in that it:

(a) Avoids the skin and fat dissection that can lead to wound complications
(b) Allows me to place an unlimited size mesh behind the rectus muscle, which has a very rich blood supply, and
(c) Allows me to bring the muscles together in reconstructing the midline abdomen, and hence every layer of the abdominal wall.

The development of this technique was not necessarily something I was wrestling with in my head, asking myself, ‘How do I develop a wider space to place mesh?” Rather, it just worked for me. It’s the way that I approach most midline incisional hernia repairs.

Every hernia repair should be a tailored and individualized approach since all patients are different. There are so many different case scenarios, that you can’t possibly perform one technique for everyone. Both the CST and PCST will allow the surgeon to address just about any large incisional hernia repair.

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